



# FortiSwitch Release Notes

Version 6.0.1

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FortiSwitch Release Notes

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## Change log

Date	Change Description
July 27, 2018	Initial release for FortiSwitchOS 6.0.1
July 30, 2018	Updated the feature matrix.
September 18, 2018	Added bug 510943 to the “Known Issues” section.

# Introduction

This document provides the following information for FortiSwitch 6.0.1 build: 0036.

- [Supported models on page 5](#)
- [Special notices on page 6](#)
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- [Resolved issues on page 17](#)
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See the [Fortinet Document Library](#) for FortiSwitch documentation.

## Supported models

FortiSwitch 6.0.1 supports the following models:

<b>FortiSwitch</b>	FSW-108E, FSW-108E-POE, FSW-108E-FPOE, FSW-124E, FSW-124E-POE, FSW-124E-FPOE, FSW-224D-FPOE, FSW-224E, FSW-224E-POE, FSW-248D, FSW-248E-POE, FSW-248E-FPOE, FSW-424D, FSW-424D-FPOE, FSW-424D-POE, FSW-448D, FSW-448D-FPOE, FSW-448D-POE, FSW-524D-FPOE, FSW-524D, FSW-548D, FSW-548D-FPOE, FSW-1024D, FSW-1048D, FSW-1048E, FSW-3032D
<b>FortiSwitch Rugged</b>	FSR-112D-POE, FSR-124D

## What's new in 6.0.1

Release 6.0.1 provides the following new features:

- Energy-efficient Ethernet (EEE)
- A summary of the configured queue mappings is now displayed in the Add IP Precedence/DSCP Map page and Edit IP Precedence/DSCP Map page
- The Operation area chart on the Dashboard now displays the current values for CPU, RAM, and PoE (on FortiSwitch PoE models).
- Secondary IP addresses and their allowed access can now be configured in *System > NetworkInterface > Physical* and *System > Network > Interface > VLAN*.

## Special notices

### Supported features for FortiSwitchOS 6.0

The following table lists the FortiSwitch features in Release 6.0 that are supported on each series of FortiSwitch models. All features are available in Release 6.0.0, unless otherwise stated.

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
Link aggregation group size (maximum number of ports) (See Note 2.)	✓	8	8	8	24/48	24/48	24 (3.5.0) 64 (3.5.1)
Auto module max speed detection and notification	✓	—	—	—	✓	✓	—
IP conflict detection and notification	✓	✓	✓	✓	✓	✓	✓
MAC-IP binding	✓	—	—	—	✓	✓	✓
Static BFD	—	—	—	—	—	✓	✓
Hardware-based ECMP	—	—	—	—	✓	✓	✓
Private VLANs	✓	—	—	✓	✓	✓	✓
LLDP transmit	—	✓	—	✓	✓	✓	✓
Loop guard	✓	✓	✓	✓	✓	✓	✓
LAG min-max-bundle	—	✓	✓	✓	✓	✓	✓
sFlow	✓	✓	—	✓	✓	✓	✓
Storm control	✓	✓	✓	✓	✓	✓	✓
ACL	—	—	—	✓	✓	✓	✓
Static L3/hardware-based routing	✓	—	—	✓	✓	✓	✓

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
Software routing only	✓	✓	✓	—	—	—	—
CPLD software upgrade support for OS	—	—	—	—	—	1024D 1048D	—
PoE-pre-standard detection (See Note 1.)	—	✓	FS-1xxE POE	✓	✓	—	—
VLAN tag by ACL	—	—	—	✓	✓	✓	✓
ACL redirect to mirror destination as trunk/LAG	—	—	—	✓	✓	✓	✓
MAC/IP/protocol-based VLAN assignment	✓	✓	✓	✓	✓	✓	✓
802.1x port mode	✓	✓	✓	✓	✓	✓	✓
802.1x MAC-based security mode	✓	✓	✓	✓	✓	✓	✓
User-based (802.1x) VLAN assignment	✓	✓	—	✓	✓	✓	✓
Virtual wire	✓	—	—	✓	✓	✓	✓
HTTP REST APIs for configuration and monitoring	—	✓	✓	✓	✓	✓	✓
Split port	Partial	—	—	—	✓	—	✓
IGMP snooping	✓	—	—	✓	✓	✓	✓
Per-port max for learned MACs	—	—	✓	✓	✓	—	—
802.1p support, including priority queuing trunk and WRED (release 3.5.1)	✓	—	—	✓	✓	✓	✓
DHCP snooping	✓	✓	✓	✓	✓	✓	✓
LLDP-MED	—	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
DHCP relay feature	✓	—	✓	✓	✓	✓	✓
Support for switch SNMP OID	✓	✓	✓	✓	✓	✓	✓
Access VLANs (See Note 5.)	—	—	—	✓	✓	✓	✓
802.1x enhancements, including MAB (release 3.5.1)	✓	✓	✓	✓	✓	✓	✓
Multi-stage load balancing (release 3.5.1)	—	—	—	—	—	✓	✓
MCLAG (multichassis link aggregation)(release 3.6.0)	Partial	—	—	✓	✓	✓	✓
Dynamic layer-3 protocols (OSPF, RIP, and VRRP) (release 3.6.0) (See Note 3.)	✓	—	—	✓	✓	✓	✓
Dynamic ARP inspection (release 3.6.0)	✓	—	—	✓	✓	✓	✓
Firmware image rotation (dual-firmware image support) (release 3.6.0)	—	✓	—	✓	✓	✓	✓
TDR (time-domain reflectometer)/cable diagnostics support (release 3.6.0)	✓	—	—	✓	✓	✓	✓
MAC learning limit (release 3.6.0) (See Note 4.)	—	—	✓	✓	✓	—	—
Sticky MAC on switch interfaces (releases 3.6.0 and 6.0.0)	—	✓	✓	✓	✓	✓	✓



Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
PoE modes support: first come, first served or priority based (PoE models) (release 3.6.0)	—	✓	FS-1xxE POE	✓	✓	—	—
ACL: egress mask action support (release 3.6.0)	—	—	—	✓	✓	✓	✓
Monitor system temperature (threshold configuration and SNMP trap support) (release 3.6.0)	—	✓	—	✓	✓	✓	✓
'forced-untagged' or 'force-tagged' setting on switch interfaces (release 3.6.0)	—	✓	—	✓	✓	✓	✓
Selective packet sampling to CPU (useful diagnostic tool) (release 3.6.0)	—	—	—	✓	✓	✓	3.6.1
Add CLI to show the details of port statistics (release 3.6.0)	—	✓	✓	✓	✓	✓	✓
Display progress (%) during firmware upgrade (release 3.6.0)	✓	✓	✓	✓	✓	✓	✓
STP root guard (release 3.6.2)	—	✓	✓	✓	✓	✓	✓
STP BPDU guard (release 3.6.2)	—	✓	✓	✓	✓	✓	✓
IGMP snooping: static multicast groups (release 3.6.2)	—	—	—	✓	✓	✓	✓
DHCP snooping: entry limit per port (release 3.6.2 and 6.0.0)	—	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
Network device detection (release 3.6.2)	—	—	—	✓	✓	✓	✓
QoS queue counters (releases 3.6.2 and 3.6.3)	—	—	—	✓	✓	✓	✓
Support of the RADIUS accounting server (release 3.6.3)	Partial	✓	—	✓	✓	✓	✓
Support of RADIUS CoA and disconnect messages (release 3.6.3)	—	✓	—	✓	✓	✓	✓
EAP Pass-Through (release 3.6.3)	✓	✓	—	✓	✓	✓	✓
DHCP snooping: CLI for DHCP-snooping server database (release 3.6.3 and 6.0.0)	—	✓	✓	✓	✓	✓	✓
Unicast hashing (release 3.6.4)	—	—	—	✓	✓	✓	✓
STP supported in MLAGs (release 3.6.4)	—	—	—	✓	✓	✓	✓
QoS marking (release 3.6.4)	—	—	—	✓	✓	✓	✓
MAB reauthentication disabled (release 3.6.4)	—	✓	—	✓	✓	✓	✓
Cut-through switching (release 3.6.4)	—	—	—	—	—	✓	✓
Control of temperature and PoE alerts (release 3.6.4)	—	✓	—	✓	✓	✓	✓
IGMP querier (release 3.6.4)	—	—	—	✓	✓	✓	✓

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
Configuration of the QSFP low-power mode (release 3.6.4)	—	—	—	—	✓	1048D	✓
Learning limit violation log (release 3.6.4) (See Note 4.)	—	—	—	✓	✓	—	—
Sticky MAC addresses saved to static MAC table (release 3.6.4 and 6.0.0)	—	✓	✓	✓	✓	✓	✓
Enabling packet forwarding to CPU (release 3.6.4)	—	—	—	✓	—	—	—
Bandwidth and losses on dashboard (release 6.0.0)	✓	✓	✓	✓	✓	✓	✓
Certificate selection in GUI (release 6.0.0)	✓	✓	✓	✓	✓	✓	✓
Priority-based flow control (release 6.0.0)	—	—	—	—	—	✓	✓
ARP timeout value (release 6.0.0)	—	✓	✓	✓	✓	✓	✓
Monitor mode (release 6.0.0)	—	✓	✓	✓	✓	✓	✓
DHCP blocking (release 6.0.0)	—	—	—	✓	—	—	—
BGP and IS-IS (release 6.0.0)	—	—	—	—	✓	✓	✓
PIM (release 6.0.0)	—	—	—	—	✓	✓	✓
auth-fail-vlan support in MAC-based authentication (release 6.0.0)	✓	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	1xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D
SAN in CSRs (release 6.0.0)	—	✓	✓	✓	✓	✓	✓
Percentage rate control (release 6.0.0)	✓	—	—	✓	✓	✓	✓
Total MAC entries (release 6.0.0)	—	✓	✓	✓	✓	✓	✓
diagnose switch trunk summary (release 6.0.0)	—	✓	✓	✓	✓	✓	✓
set mac-violation-timer (release 6.0.0)	—	✓	—	✓	✓	✓	✓
Fault relay support (release 6.0.0)	—	✓	—	—	—	—	—
GUI certificate selection (release 6.0.0)	✓	✓	✓	✓	✓	✓	✓
Multistage ACL (release 6.0.0)	—	—	—	—	✓	✓	✓
Energy-efficient Ethernet (release 6.0.1)	—	—	✓	✓	✓	—	—
Current values for CPU, RAM, and PoE (release 6.0.1) (See Note 6.)	✓	✓	✓	✓	✓	✓	✓
Summary of configured queue mappings (release 6.0.1)	✓	—	✓	✓	✓	✓	✓
Configuration of secondary IPs in GUI (release 6.0.1)	✓	✓	✓	✓	✓	✓	✓

## Notes

- PoE features are applicable only to the model numbers with a POE or FPOE suffix.
- 24-port LAG is applicable to 524D, 524\_FPOE, 1024D, and 3032D models. 48-port LAG is applicable to 548D, 548\_FPOE, and 1048D models.
- To use the dynamic layer-3 protocols, you must have an advanced features license.

4. The per-VLAN learning limit and per-trunk learning limit are not supported on dual-chip platforms (248 and 448 series).
5. Access VLANs are not supported on 108D-POE, 224D-POE, or 112D-POE.
6. The current value for PoE is displayed only on FortiSwitch PoE models.

## Connecting multiple FSW-R-112D-POE switches

The FSW-R-112D-POE switch does not support interconnectivity to other FSW-R-112D-POE switches using the PoE ports. Fortinet recommends using the SFP ports to interconnect switches.

# Upgrade information

FortiSwitch 6.0.1 supports upgrading from FortiSwitch 3.5.0 and later.

## Cooperative Security Fabric upgrade

FortiOS 5.4.1 greatly increases the interoperability between other Fortinet products. This includes:

- FortiClient 5.4.1
- FortiClient EMS 1.0.1
- FortiAP 5.4.1
- FortiSwitch 3.4.2

The upgrade of the firmware for each product must be completed in a precise order so the network connectivity is maintained without the need of manual steps. Customers must read the following two documents prior to upgrading any product in their network:

- *Cooperative Security Framework - Upgrade Guide*
- *FortiOS 5.4.0 to 5.4.1 Upgrade Guide for Managed FortiSwitch Devices*

This document is available in the Customer Support Firmware Images download directory for FortiSwitch 3.4.2.

# Product integration and support

## FortiSwitch 6.0.1 support

The following table lists 6.0.1 product integration and support information.

<b>Web browser</b>	<ul style="list-style-type: none"><li>• Microsoft Internet Explorer version 11</li><li>• Mozilla Firefox version 52</li><li>• Google Chrome version 56</li></ul> <p>Other web browsers may function correctly, but are not supported by Fortinet.</p>
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**FortiOS  
(FortiLink  
Support)**

- 5.4.1 and later

FortiSwitch must be upgraded first before upgrading FortiOS. Please read the *Upgrade Information > Cooperative Security Fabric Upgrade* section in this document.

- 5.4.0

FortiSwitch models: FSW-108D-POE, FSW-124D, FSW-124D-POE, FSW-224D-POE, FSW-224D-FPOE, FSW-248D-POE, FSW-248D-FPOE, FSW-424D, FSW-424D-POE, FSW-424D-FPOE, FSW-448D, FSW-448D-POE, FSW-448D-FPOE, FSW-524D, FSW-524D-FPOE, FSW-548D, FSW-548D-FPOE, FSW-1024D, FSW-1048D, FSW-3032D, FSR-112D-POE

FortiGate models: FG-60D, FG-60D-POE, FG-90D, FG-90-POE, FG-100D, FG-140D, FG-140D-POE, FG-140D-POE-T1, FG-200D, FG-240D, FG-280D, FG-280D-POE, FG-600C, FG-800C, FG-1000C, FG-1500D, FG-1200D, FG-3700D, FG-3700DX

FortiWiFi models: FWF-60D, FWF-60D-POE, FWF-90D, FWF-90D-POE

- 5.2.3 and later

FortiSwitch models: FSW-108D-POE, FSW-124D, FSW-124D-POE, FSW-224D-POE, FSW-224D-FPOE, FSR-112D-POE

FortiGate models: FG-60D, FG-90D, FG-100D, FG-140D, FG-200D, FG-240D, FG-280D, FG-600C, FG-800C, FG-1000C, FG-60D-POE, FG-90D-POE, FG-140D-POE, FG-140D-POE-T1, FG-280D-POE

FortiWiFi models: FWF-60D, FWF-60D-POE, FWF-90D, FWF-90D-POE

- 5.2.2

FortiSwitch models: FSW-224D-POE

FortiGate models: FG-90D, FG-90D-POE, FG-100D, FG-140D, FG-140D-POE, FG-140D-POE-T1, FG-200D, FG-240D, FG-280D, FG-280D-POE, FG-600C, FG-800C, FG-1000C

FortiWiFi models: FWF-90D, FWF-90D-POE



## Resolved issues

The following issues have been fixed in 6.0.1. For inquiries about a particular bug, please contact [Customer Service & Support](#).

Bug ID	Description
456851	Very large VLAN maps cause the CLI to list attributes multiple times or cause a crash.
460999	When you enable Energy Efficiency Ethernet (EEE) on an Apple Thunderbolt to Gigabit Ethernet Adapter, the FortiSwitch port might flap continuously.
466710	There should be reminder to change the password the first time a user logs in to the administration account.
482989	Static MAC addresses are not counted in the limit for learned MAC addresses on an interface or VLAN.
489064	When connecting two 224D FortiSwitch units together, the SFP ports RX alarm reports a loss of signal, but the network traffic is not interrupted.
489451	An obsolete object identifier (OID) appears in the Management Information Base (MIB).
491980	When configuring RIP routing in <i>Router &gt; Config &gt; RIP &gt; Interfaces</i> , setting the Send Version and Receive Version to <i>Global</i> or <i>Both</i> does not work. Setting the send-version and receive-version to both in the CLI causes an Internal Server Error.
492804	A method is needed in the FortiSwitch 6.x GUI to download all event logs.
492166	The Add Static Route ( <i>Router &gt; Config &gt; Static &gt; Add Route</i> ) page needs the option of <i>Any</i> for the Device field.
492190	The <i>Switch &gt; Port &gt; Trunk</i> page should show which ports are members of the trunk.
493089	In a network topology that contains layer-2 loops, the network monitor should be disabled.
493778	If an admin account has configurations for the pre-6.0 GUI dashboards, upon upgrading to FortiSwitchOS 6.0.0, that account's password will be reset to blank, and all administrator accounts after that one will be lost, regardless of their configuration.
494714	The port associated with a trunk used as the inter-chassis link (ICL) between two FortiSwitch units in a multichassis link aggregation group (MCLAG) was not removed within 10 minutes after the port was disconnected from the trunk.

Bug ID	Description
496213	A CLI command is needed to control whether untrusted broadcast client packets are dropped or forwarded.
497615	In the <i>Switch &gt; Interface &gt; Physical</i> page and the Edit Physical Port Interface page, the Allowed VLANs area needs to be larger.
498873	The "POE Power Delivered" value in the FortiSwitch Cloud is not updated.
499938	<i>Next</i> and <i>Previous</i> buttons are needed for the Edit VLAN page.
501297	The maximum number of paths for equal-cost multi-path (ECMP) routing needs to be configured in the CLI.
502079	Running multiple SNMP queries at the same time causes a timeout.
502280	After the FSW-124E-POE is upgraded to 3.6.6, 3.6.7, or 6.0, there is a high-pitched noise when the switch starts.

# Known issues

The following known issues have been identified with 6.0.1. For inquiries about a particular bug or to report a bug, please contact [Fortinet Customer Service & Support](#).

Bug ID	Description
380239	IGMP-snooped multicast groups are not immediately flushed out of the snooping table when the querier port is shut down.
391607	Switch does not send gratuitous ARP for IP conflict when the system boots up and adds a new switch virtual interface (SVI).
414972	IGMP snooping might not work correctly when used with 802.1x Dynamic VLAN functionality.
416655	When using DHCP, the IPv6 address cannot be configured. Also, the automatic configuration of the global address does not work.
438441	DHCP snooping and dynamic ARP inspection (DAI) do not work with private VLANs (PVLANS).
480605	When DHCP snooping is enabled on the FSR-112D-POE, the switched virtual interface (SVI) cannot get the IP address from the DHCP server.
481151	<p>When IGMP snooping and PIM are enabled on the same VLAN, multicast traffic might still flood.</p> <p><b>Workaround:</b> Remove the SVI and then add it from a protocol-independent multicast (PIM) network containing a VLAN with IGMP snooping enabled or disabled.</p>
488044	On a Protocol Independent Multicast (PIM) topology using the assert mechanism, when the assert winner lost the route to the source, no multicast route was created, and the multicast traffic stopped.
488359	When the same host joins multicast groups from different sources, all multicast routes are deleted if some of the sources are set to Exclude (Record Type 2).

Bug ID	Description
489769	<p>In a two-tier MCALG topology, some second tier FortiSwitch MCLAG peer groups have high levels of STPD processing. When this happens, Fortinet recommends <i>both</i> of the following actions:</p> <p>(a) Disable STP on the first tier MCLAG trunks with the following commands:</p> <pre>config switch global     set mclag-stp-aware disable end</pre> <p>STP will still be operational on each peer.</p> <p>(b) Do NOT use access-ring connections on the first tier MCLAG peer group.</p>
510943	<p>When using the cable diagnostics feature on a port (with the <code>diagnose switch physical-ports cable-diag &lt;physical port name&gt;</code> CLI command), ensure that the physical link on its neighbor port is down. You can disable the neighbor ports or physically remove the cables.</p>



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